Editorial: Explaining and Explaining Away in Science and Religion

This is an Accepted Manuscript of an article published by Taylor & Francis in Theology and Science on 11/08/2016, available online: http://www.tandfonline.com/ 10.1080/14746700.2016.1191875.

Guest Editorial for Special Issue on 'Explaining and Explaining Away in Science and Religion'

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Despite the consensus in the science-religion literature on the inadequacy of the conflict model, it is a model that remains alive and well at a popular level. A common theme in popular atheism is that scientific explanations of the world have "explained away" religion in general, and God in particular. The idea is that as science explains more and more about the world, there is less and less need for God. Even if one does not embrace the conflict model, it is legitimate to ask whether there is any need for a religious explanation in addition to a scientific explanation or, more specifically, under what circumstances a scientific explanation might remove the need for a religious one.

The concept of explaining away is not unique to the science-religion domain. To take a simple example, suppose your car will not start and two possible explanations spring to mind: a flat battery and a faulty starter motor. When you discover that the battery is flat, this counts against, or explains away, the alternative explanation that the starter motor is faulty. The reason for this is not because of an incompatibility between the two explanations; it is certainly possible, though unlikely, that the battery is flat *and* the starter motor is faulty. Instead, it occurs because there is no need to infer two explanations when one will do. In this sense, explaining away can be thought of as an instance of Ockham's razor.

While the above example is a straightforward case of explaining away, it is important to note that explaining away does not always occur when there are two possible explanations. In some cases the explanations can mutually enhance each other. This raises the question: how do you determine whether explaining away occurs in a given case? Or, to put it another way: what are the conditions under which explaining away takes place? We explored these questions as part of a project funded by the John Templeton Foundation at Ulster University between June, 2013 and September, 2015 (grant no. 40676). In an article in this journal,[1] we presented a formal answer to these questions using a Bayesian approach as well as informal questions which could help determine the answer in a given situation. As part of the same project, we hosted a conference on "Explaining and Explaining Away in Science and Religion" in Belfast in January, 2015. The current volume is based on some of the contributed papers from that conference.

In the first paper, Rodney Holder explores explaining away in the context of modern cosmology. Big Bang cosmology and the fine-tuning of the universe for life are often presented as findings of modern science that are relevant to theology. In light of this, Holder investigates whether the Hartle-Hawking "no boundary" proposal or quantum vacuum models explain away divine creation, and whether a multiverse explains away divine design. As well as giving a helpful overview of the relevant scientific developments, he employs the five questions identified in our earlier article to argue that explaining away does not occur in

any of these cases. He argues that explaining away fails at two levels in the case of both Big Bang cosmology and fine-tuning. With respect to the former, he argues that not only does the science fail to explain away a beginning, but that science is powerless to explain away the more fundamental question as to why there is a universe at all. With respect to the latter, he argues that not only do multiverses fail to explain away design due to a variety of problems that they face, but also that there might well be reasons for religious believers to welcome multiverses in any case.

In our earlier paper, we briefly applied our approach to evolution and design, multiverses and fine-tuning and the origins of religion. In our discussion of multiverses we, like Holder, concluded that explaining away does not occur. However, we conceded that a multiverse would in fact account for the evidence of fine-tuning, but in his more detailed discussion, Holder rightly questions this point. He argues that a multiverse might be able to explain fine-tuning that would be needed for the existence of "Boltzmann brains" – isolated observers that arise simply from thermal fluctuations, but not the fine-tuning found in our universe that is needed for the existence of embodied conscious agents like us.

Jonah Schupbach explores the nature of explaining away arguments in the second paper. Addressing the research question noted earlier concerning the conditions for explaining away, he presents a thorough analysis, focusing in particular on the condition that the two hypotheses in question must compete. The central idea is that they compete if, upon accepting one of them, the other no longer retains its explanatory power. However, they also do not compete if they provide different types of explanations or form a causal chain where one causes (or explains) the other, which in turn causes the evidence in question. With this formal account in hand, Schupbach then applies it to debates about design and evolution. He argues that proponents of Intelligent Design, as well as those who appeal to evolution to argue against the existence of a designer, both assume that design and natural selection are in competition with each other. Yet, as his account shows, there are straightforward ways to deny this.

It is worth commenting on the fact that Schupbach's account differs somewhat from our earlier account of explaining away. When considering whether explaining away occurs, we argue that two pathways between the hypotheses need to be taken into account: any direct influence one has on the other, and any indirect influence that one has on the other via the evidence. For example, only the indirect pathway is present in the car example, assuming that in the absence of evidence (i.e. the car starts fine) a flat battery has no bearing on whether there is a problem with the starter motor. However, if there were such a direct relationship between them, we argue that it would also be relevant to explaining away. Schupbach proposes instead that only the indirect pathway is relevant. There are advantages to Schupbach's view since the indirect pathway does indeed seem to capture more clearly the explaining away mechanism. Our approach too has advantages since explaining away would not seem to occur if a negative influence via the indirect pathway is outweighed by a positive influence along the direct pathway.[2] Despite some differences, however, there is significant agreement in terms of the overall approach. For example, in terms of applications to science

and religion, we agree that the perception of competition is best understood not in terms of incompatibility, but in terms of explaining away and that explaining away can often be avoid in straightforward ways, such as by appealing to causal chains.

An obvious area of the dialogue between science and religion where explaining away is relevant concerns the cognitive science of religion (CSR). In this field of study, various explanations for the origins of religious belief have been proposed, but of particular interest here is how this work has been put to use in so-called debunking arguments, which seek to show that CSR undermines the rationality of religious belief. To put it another way, the claim is that CSR not only explains religious belief, but explains it away. In the third paper, Matthew Braddock addresses this topic by presenting a novel debunking argument, based on false god beliefs. He points out that the most prominent debunking argument is based on insensitivity, the idea that the processes that give rise to religious beliefs are insensitive to their truth so that people would believe in gods even if no gods exist. Finding this argument wanting, he presents a new, alternative argument.

The central idea in Braddock's argument is that we should suspend judgment in the reliability of CSR mechanisms because they give rise to a large percentage of false god beliefs. Delineating the scope of the argument, he makes it clear that it does not apply to all religious beliefs, but to traditional monotheistic beliefs that are formed in a non-inferential manner. That is to say, his argument seeks to show that such beliefs are not justified in the absence of independent evidence for them. In a detailed exposition of the argument, he draws on ethnographic data to make his case and addresses potential responses based on objections in the current literature on debunking arguments. Given how this argument relates to, and differs from, existing research, it will be of interest to those working in this area.

The final paper, by one of us (DG) also addresses explaining away in the context of CSR. This paper builds on our previous work to develop four models of the relationship between science and religion that are considered in terms of their plausibility and how they relate to explaining away. One of these models, the indirect conflict model, has most scope for explaining away, yet it is arguably an implausible model of the relationship between science and religion. Two of the other models, it is claimed, provide plenty of options to theists to respond to explaining away arguments. These models are then applied to debunking arguments in the context of CSR.

In agreement with Braddock, this paper argues that such debunking arguments are best understood as targeting religious beliefs that are formed in a non-inferential manner. Most of the focus is on arguments based on insensitivity and, like Braddock, these arguments are found wanting, but for different reasons. A key feature of the discussion is that nothing very interesting follows from insensitivity on its own – in fact, when insensitivity is spelt out in probabilistic terms, it is assumed in two of the models of science and religion. While insensitivity could be questioned, it is argued that there are good reasons to doubt that explaining away occurs. The final part of the paper offers some brief responses to Braddock's argument.

Overall, we think that this collection of articles highlights the importance of explaining away in the dialogue between science and religion. Holder's paper shows its relevance in cosmology, while the papers by Braddock and Glass show its relevance in the context of CSR. Also, while two of the papers deploy our earlier account of explaining away, Schupbach develops a novel account and shows its relevance to evolution and design. We hope that this volume will encourage others to investigate the nature of explaining away further and to apply it to other areas of science and religion and beyond.

Finally, we thank the contributing authors for their timely and gracious responses to the requests for changes to their manuscripts that came from both the anonymous reviewers and editors. We also thank Rodney Holder for arranging anonymous reviewers for the paper by DG.

Biographical Note

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[1] David H. Glass and Mark McCartney, "Explaining and Explaining Away in Science and Religion," *Theology and Science* 12 (2014), 338-361.
[2] In another paper the two pathways are incorporated into an account of the closely related concept of hypothesis competition, see David H. Glass and Jonah N. Schupbach, "When do hypotheses compete?" (unpublished manuscript, 2016).